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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



re Application of

Johannes M.M. Verbakel, et al.

STORING AUDIO-CENTERED
INFORMATION WITH A
MULTI-LEVEL A MULTI-
LEVEL TABLE-OF-
CONTENTS (TOC)
MECHANISM HAVING
REDUNDANT SUB-TOCS

Serial No. 10/056,366

Filed: January 25, 2002

Group Art Unit: 2653

Examiner: Kim Kwok Chu

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Introduction

This Application is before the Honorable Board of Patent Appeals and Interferences, from a final decision of the Examiner as indicated in the Advisory Action dated April 6, 2004.

Real party in interest

The real party of interest is the Assignee who is U. S. Philips Corporation, a corporation existing under the laws of the State of Delaware (hereinafter Appellant).

Related appeals and interferences

There are no related appeals or interferences to the present application that are known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 10-42 as originally filed are drawn to a method and apparatus for a unitary storage medium having at least one master table of contents and multiple sub-table of contents associates with a single track.

Status of the Amendments After Final

A response was filed subsequent to the final rejection to overcome the examiner's rejection of claims 10-19, 22, 23, 25, 27, 29, 31, 33 and 35 under the judicially created doctrine of obviousness-type double patenting and 35 U.S.C. §103. The examiner in an advisory action (paper no. 12) indicated that the rejection under the judicially created doctrine of obviousness-type double patenting and the rejection under the provisions of 35 U.S.C. §103 stand.

The examiner maintains that claims 20, 21, 24, 26, 28, 30, 32, 34, and 36-42 are objected as being dependent upon a rejected claim but are otherwise allowable. Note, that this objection, apparently, does not take into account the rejection under the judicially created doctrine of obviousness-type double patenting of claims 20, 21, 24, 32, 36, 40 and 42. Therefore, it appears that claims 20, 21, 24, 32, 36, 40 and 42 are rejected rather than objected to.

Summary Description of the Invention

The invention relates to a method and apparatus for storing digital audio on a unitary media such as a disc for tape. The unitary media of the invention provides at least one master table of contents (TOC) and multiple copies of mutually logically conforming sub-TOCs within a single track (see page 6, lines 4-18). The master-TOCs contain pointers to various sub-TOCs and area-TOCs (see page 6, lines 27- 29).

The problems to be solved by the invention, as well the advantages of the invention are described in detail in the description (see pages 1-11). Briefly stated, in providing redundant sub-TOC mechanisms within a track, either of which can be accessed in the event that one of the sub-TOC mechanisms becomes corrupt or otherwise unreadable.

Issues on Appeal

The issues presented are:

- (1) whether claims 10-24, 31, 32, 35, 36, 40 and 42 are patentable in view of U.S. Patent No. 6,370,090 which issued from the parent case the under the judicially created doctrine of obviousness-type double patenting; and
- (2) whether claims 10-19, 22, 23, 25, 27, 29, 31, 33 and 35 are patentable under 35 U.S.C. §103 over Nishida et al. in view of Yonemitsu et al.

Grouping of the Claims

The claims do not stand and fall together.

Arguments

I. The rejection under the judicially created doctrine of obviousness-type double patenting.

The judicially created doctrine of obviousness-type double patenting was created to prevent unfair patent term extension. The only reference in this rejection is the parent case (U.S. Patent No. 6,370,090). The present application for invention was filed after the enactment of The American Inventors Protection Act was enacted November 29, 1999, therefore, there are no issues related to unfair patent term extension.

A. The rejection

Claims 10-24, 31, 32, 35, 36, 40, and 42 stand rejected under the judicially created doctrine of obviousness-type double patenting.

The appellants respectfully point out that there is a discrepancy for claims 20, 21, 24, 32, 36, 40 and 42 which are stated in the Final Rejection and the Advisory Action to being objected to as being depended upon a base claims but are otherwise allowable. The rejection under the judicially created doctrine of obviousness-type double patenting specifically addresses claims 20, 21, 24, 32, 36, 40 and 42, therefore, the appellant treats there claims, herein, as being rejected.

B. The reference

The only reference used for the rejection of appealed claims 10-24, 31, 32, 35, 36, 40, and 42 under the judicially created doctrine of obviousness-type double patenting, are claims 22-34 of U.S. Patent No. 6,370,090, which is the parent case to the present invention. Claims 22-34 of U.S. Patent No. 6,370,090 are all based, either directly or indirectly, on independent claim 22. Claim 22 is reproduced below.

22. An audio-centered information structure, comprising:
a unitary storage medium having a Table-of-Contents (TOC) mechanism adapted to

specify an actual configuration of only audio items on the unitary storage medium;
a device coupled to the unitary storage medium, said device selected from the group consisting of a playback device and a recording device;
at least two mutually logically conforming Sub-TOCs assigned to a Track Area of the unitary storage medium; and
at least one Master.TOC adapted to point to each of said Sub-TOCs.

Note that the sub-TOCs recited by claim 22 reproduced above, do not define subject matter that includes each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs. The appellants respectfully point out that the foregoing subject matter is not recited by any of claim 22-34 of U.S. Patent No. 6,370,090.

C. The differences between the invention and the reference

With respect to claims 22-34 of U.S. Patent No. 6,370,090, the sub-TOCs are defined as “at least two mutually logically conforming sub-TOCs assigned to a Track Area of the unitary storage medium.” There is no recitation that each of sub-TOCs contains structures for storing information for determining the configuration of the same information items stored in the track area. Also, claims 22-34 of U.S. Patent No. 6,370,090 do not recite that the sub-TOCs allow retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs. The appellant respectfully submits that the foregoing features are novel and unobvious over claims 22-34 of U.S. Patent No. 6,370,090.

The appellants respectfully submit that the parent case of the present invention (U.S. Patent No. 6,370,090) **can** be used as a basis for a double patenting rejection, but **cannot** be treated as prior art. In making the aforementioned obvious-type double patenting rejection, the examiner inherently states that the rejected claims to the present invention differ from that of that of U.S. Patent No. 6,370,090 (the parent case) because, simply put, a same-invention, double patenting rejection has not been made. The Final Office Action alleges that the claims to the present invention are obvious in view of the claims to U.S. Patent No. 6,370,090, however, the

Examiner has cited no prior art, whatsoever, showing that the differences between the rejected claims of the present invention and the claims to U.S. Patent No. 6,370,090 amount to an obvious modification of the claims to U.S. Patent No. 6,370,090. Without a prior art recitation to substantiate an obvious-type double patenting rejection, there is no factual basis upon which the assertion of obviousness can be measured. Therefore, the double patenting rejection cannot stand.

The appellants respectfully point out that In re Schneller, 397 F.2d 350, 158 USPQ 210 (CCPA 1968) should not apply to the present case. In re Schneller is applicable to situations where the subject matter recited in the claims of the application is fully disclosed and covered by a claim in the patent. The claims to the present application for invention recite subject matter that is not fully covered by the claims to U.S. Patent No. 6,370,090. The issue present here is domination and not "obviousness" type double patenting. Domination being where one claim covers a later claim, which is not double patenting. In re Kaplan, 789 F.2d 1574, 1577, 229 USPQ 678, 681 (Fed. Cir. 1986). In re Schneller does not support the proposition that obviousness-type double patenting exists without any obviousness analysis when the application claim recites elements in addition to those recited in the patent claims. In the present case, there has been no obviousness analysis.

Moreover, there should be no issues in allowing the claims to present invention. The protection afforded by the claims of the present application for invention and U.S. Patent No. 6,370,090 will expire at the same time.

II. The rejection under 35 U.S.C. §103(a)

A. The rejection

Claims 10-19, 22, 23, 25, 27, 29, 31, 33, and 35 stand rejected under the provisions of 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 5,384,678 issued to Nishida et al. (hereinafter Nishida et al.) in view of U.S. Patent No. 5,592,450, issued to Yonemitsu et al. (hereinafter Yonemitsu et al.). The examiner's position is that it would have been within the scope of one of ordinary skill in the art to include each sub-TOC having

structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs within the storage medium of Nishida et al.

B. The references

Nishida et al. disclose a DAT tape used as an image recording/reproducing apparatus having a master TOC region for recording address information for a plurality of chapters (see column 1, line 68-column 4, line 6). The DAT tape of Nishida et al. is divided into several chapters, each chapter having a chapter TOC region for recording reduced and aggregated data for still picture/audio composite data for that chapter (see column 4, lines 18-27). Note that Nishida et al. do not teach, mention or suggest providing any additional mutually logically conforming chapter TOCs for the same track area in one or more track areas of a unitary storage medium. Nishida et al. do not disclose, or suggest, the use of an additional chapter TOC including structures for storing information for determining the configuration of the same information items stored in the track area.

In summary, Nishida et al., do not teach multiple structures within a chapter that allow the retrieving the configuration of the same information item in the chapter from another correct copy of the chapter TOC. The DAT tape taught by Nishida et al. has no tracks.

Yonemitsu et al. disclose a method and apparatus for reproducing compressed data, including TOC information recorded in a plurality of sectors in at least one TOC track. The TOC information includes user track sector addresses and an application TOC that identifies parameters for accessing user information (see Abstract). The tracks of Yonemitsu et al. are divided into a lead-in area, a program area, and a lead-out area with the TOC information is recording in the lead-in area and user information in the program area (see column 3, lines 3-8). Application TOC information is recorded in the program area for identifying and accessing chapter user information (see column 3, lines 12-15). The application TOC can include fields of chapter data, with each field being associated with a chapter and including location and data format information for that chapter (see column 3, lines 24-32). The TOC region comprises one or more TOC tracks disposed in the lead-in area at negative sector addresses -32 to -1. Duplicate

TOC regions can be disposed in the lead-in area (see column 11, lines 36-42, Fig. 3., Fig. 4a and Fig 4b). A copy of the TOC region can be provided in the program area to have the TOC region accessible at non-negative addresses (see column 11, line).

Note that Yonemitsu et al. do not disclose, teach or mention in any way that Application TOC data be provided within each chapter much less that redundant Application TOC be provided within any chapter. The appellants respectfully point out that there is no teaching, or suggestion, for the TOC region to be redundantly reproduced within a chapter or a track.

C. The differences between the invention and the references

Neither Nishida et al. (U.S. Patent No. 5,384,678), nor Yonemitsu et al. (U.S. Patent No. 5,592,450) disclose, suggest, or define subject matter that includes at least two mutually logically conforming sub-TOCs for the same track area in one or more track areas of a unitary storage medium, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs. Furthermore, neither Nishida et al., nor Yonemitsu et al. disclose, or define subject matter that includes each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area.

As pointed out by the examiner, Nishida et al. do not teach: an additional mutually logically conforming sub-TOC for the same track area in one or more track areas of a unitary storage medium; or the additional sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs, as recited by appealed claim 10. The appellants respectfully point out that Nishida et al. provide no teaching relevant more than one sub-TOC, or chapter TOC, being provided within the same chapter.

Yonemitsu et al. teach a recording medium with an additional mutually logically conforming TOC in the storage medium as shown in Fig. 5. The additional TOC taught by Yonemitsu et al. is within the program area. There is no mention of any subject matter Yonemitsu et al. that would lead a person skilled in the art to place redundant sub-TOC

structures within the same track as recited by appealed claim 10. Fig. 5 of Yonemitsu et al. illustrates a recording medium providing a single copy of the TOC in the program area. The appellants draw attention to the discussion of Fig. 5 within Yonemitsu et al. at column 11, line 56 through column 12, line 4, wherein, the TOC is described as being placed within the lead in area and the copy of the TOC being placed in the program area. The lead in area as discussed by Yonemitsu et al. on column 11, lines 34-55 is a separate area of the disc from the program area. There is no discussion within Yonemitsu et al. for placing redundant copies of the TOC data within the same track. Moreover, there is no disclosure, or suggestion, within Yonemitsu et al. for placing sub-TOC data for storing information for determining the configuration of the same information items stored in the track area as recited by appealed claim 10. Therefore, there are features that are recited by appealed claim 10 that are not found in the combination made by the Final Office Action.

The examiner contends that Yonemitsu et al. teach advantages of placing a duplicate copy of the TOC file in the program area, and that Nishida et al. teach a master TOC that refers to a sub-TOC within a chapter, therefore, it would have been obvious for personal skill the art to create the subject matter defined appealed claim 10. The Appellants, respectfully, disagree. A person skilled in the art would **not** be led to create a unitary storage device as defined by appeal claim 10 by viewing Nishida et al. in combination with Yonemitsu et al. The only redundancy mentioned in either Nishida et al. or Yonemitsu et al., is the TOC reproduced within the program area of Yonemitsu et al. There is no mention at all of redundancy within Nishida et al. A person skilled in the art could possibly be led to modify Yonemitsu et al. to include chapter TOCs as taught by Nishida et al. Or, a person skilled in the art might be led to modify Nishida et al. to replicate the master TOC as taught by Yonemitsu et al. somewhere in the program area of the DAT tape of Nishida et al. A person skilled in the art would not be led to create at least two mutually logically conforming sub-TOCs for the same track area in one or more track areas of a unitary storage medium by viewing Yonemitsu et al. alone or in combination with Nishida et al. There is motivation supplied in either Yonemitsu et al. or Nishida et al. for placing a redundant sub-TOC in a single track as recited by appealed claim 10.

The policy of the United States Patent Office for establishing a *prima facie* case of obviousness can be found in the MPEP at §2142. There are three basic criteria that must be met. "First, there must be some suggestion or motivation, either in the references themselves or

in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

Regarding the first criteria, the requirement for some suggestion or motivation, to make the combination provided by the prior art. Since, Yonemitsu et al. does not provide any sub-TOCs or chapter TOCs, and Nishida et al. relates to a DAT tape without any tracks, therefore, there is no motivation to combine the teachings of Yonemitsu et al. and Nishida et al. to create multiple sub-TOCs within a single track.

Regarding the second criteria for a *prima facie* case of obviousness, the reasonable expectation of success must be found in the prior art, and not based on Applicants' disclosure. The Final Office Action has failed to provide any support that in Nishida et al. or Yonemitsu et al. that it would be possible to read a second sub-TOC in a track after a failure in attempting to read a first sub-TOC in the same track. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). In order to establish a *prima facie* case of obviousness, there must be a reasonable expectation of success found within the prior art. There is no mention of not being able to read a chapter TOC within Nishida et al. Yonemitsu et al. only discusses a potential failure in reading the equivalent of a Master TOC. Accordingly, neither Nishida et al., nor Yonemitsu et al. provide any reasonable expectation of success that it would be possible to read a second sub-TOC in a track after a failure in attempting to read a first sub-TOC in the same track.

The final criteria, that the references when combined must teach or suggest all the claim limitations, is not met by Nishida et al. or Yonemitsu et al., alone or in combination. Neither Nishida et al., nor Yonemitsu et al. provide any teaching or suggestion for creating redundant files within a single track. Moreover, the rejection within the Final Office Action has not provided any motivation to modify the combination to provide redundant files within the same track, much less redundant sub-TOC files within the same track.

The rejection of appealed claim 11 states that Nishida et al. teaches elements of appealed claim 11. Nishida et al. do not teach a medium with tracks. Appealed claim 11 relates to track and storing multiple sub-TOC structures with tracks. Nishida et al. does not disclose or suggest storing in each of the sub-TOCs structures and configuration data for each of the information items in the track area.

As further pointed out by the examiner, Nishida et al. do not teach that the information is stored by pressing consumer discs from a master disc as recited by appealed claim 14. Appealed claim 14 recites that multiple sub-TOCs are part of the information being pressed, and this is not disclosed or suggested by Fig. 2 of Yonemitsu et al.

The examiner also points out that Nishida et al. do not teach that two sub-TOC assigned to the track area are positioned at opposite ends of the track area as recited by appealed claim 16. The appellant would like to point out that Nishida et al. or Yonemitsu et al., alone or in combination, do not specify, disclose or suggest that redundant copies sub-TOC files can be located at opposite ends of the track. Neither Nishida et al., nor Yonemitsu et al. detail redundant copies of files at opposite ends of a single track, nor multiple copies of sub-TOCs in a single track.

Regarding appealed claims 17 and 19, Nishida et al. do not teach the providing of two identical sub-TOC files as recited appealed claims 17 and 19. This combination made by the rejection of appealed claims 17 and 19 must be modified in order to reach the subject matter defined by these claims. Regarding appealed claim 17, Nishida et al. do not teach that the number of sub-TOCs assigned to the track area is exactly 2 as recited by appealed claim 17. Yonemitsu et al. teach a file structure wherein the master TOC has a copy in the program area and the lead in areas. Yonemitsu et al. do not teach or suggest placing multiple sub-TOCs in a single track. Nishida et al. do not teach that the chapter TOC is a copy of the master TOC. Regarding appealed claim 19, Nishida et al., do not teach the placement of redundant copies of TOC files anywhere on the storage medium. Yonemitsu et al. do not teach or suggest placing multiple sub-TOCs in a single track.

Regarding appealed claim 22, neither Nishida et al., nor Yonemitsu et al. disclose, suggest, or define subject matter that includes at least two mutually logically conforming sub-TOCs for the same track area in one or more track areas of a unitary storage medium, thereby allowing retrieving the configuration of the same information item in the track area from at least

any correct copy of the sub-TOCs. Neither Nishida et al., nor Yonemitsu et al. teach or suggest subject matter for multiple sub-TOC within a single track having structures for storing information for determining the configuration of the same information items stored in the track area. Nishida et al. do not teach any redundancy and more importantly any redundancy for sub-TOC for the same track. The appellants respectfully point out that Nishida et al. provide no teaching relevant more than one sub-TOC, or chapter TOC, being provided within the same chapter. Yonemitsu et al. teach a recording medium with a redundant copy of the TOC provides to have non-negative addresses. The additional TOC taught by Yonemitsu et al. is within the program area. There is no mention of corruption or contamination of sub-TOCs within Yonemitsu et al. or Nishida et al. that would lead a person skilled in the art to place redundant sub-TOC structures within the same track as recited by appealed claim 22.

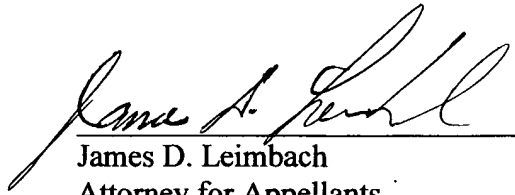
Regarding appealed claim 25, there is no disclosure or suggestion within Yonemitsu et al. for a first control means for positioning a read head and second control means for positioning the read head. The rejection of appealed claim 25 has provided no support for the assertion that disc drive and controller of Yonemitsu et al. can function as different control means for positioning a read head.

Regarding appealed claim 27, Yonemitsu et al. does not teach a first control means for positioning a read head and second control means for positioning the read. The rejection as has provided no support for the assertion that disc drive and controller of Yonemitsu et al. can function as different control means for positioning a read head.

D. Conclusion

In summary, the Examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 10-24, 25, 27, 29, 31, 32, 33, 35, 36, 40 and 42 should be reversed.

Respectfully submitted,



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APPENDIX 1 Claims on Appeal

10. A method for producing a unitary storage medium, comprising the steps of:
 - providing at least two mutually logically conforming sub-TOCs for the same track area in one or more track areas of a unitary storage medium, each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs; and
 - providing at least one master-TOC having structures for storing information for determining the position of the sub-TOCs.

11. The method of Claim 10, further comprising the step of:
 - storing the information items in the track area;
 - storing in each of the sub-TOC structures the configuration of each of the information items including the content and position of the information items in the track area;
 - storing in the master-TOC structures the information for determining the position of the at least two mutually logically conforming sub-TOCs.

12. The method of Claim 10, wherein the information items include audio information.

13. The method of Claim 10, wherein the unitary storage medium is an optical disc.

14. The method of Claim 10, wherein the information is stored by pressing consumer discs from a master disc.

15. The method of Claim 10, wherein the information is stored using an optical write head.

16. The method of Claim 10, wherein two sub-TOCs assigned to the track area are positioned at opposite ends of the track area.

17. The method of Claim 10, wherein the number of sub-TOCs assigned to the track area is exactly 2.

18. The method of Claim 10, wherein the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium.

19. The method of Claim 10, wherein the mutually logically conforming sub-TOCs are identical.

20. The method of Claim 10, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

21. The method of Claim 10, wherein:

the method further comprises the step of: storing the information items in the track area:

storing in both the sub-TOCs structures the information for determining the content and position of each information item in the track area; storing in the master-TOC structures the information for determining the position of the at least two mutually logically conforming sub-TOCs;

the information items include audio information;

the storage medium is an optical disc;

the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio conforms to a standard selected from: UDF, and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and another sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

22. A unitary storage medium, comprising:

one or more track areas;

at least two mutually logically conforming sub-TOCs assigned to a track area, each sub-TOC having information structures for storing information specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration information for the same information item in the track area from at least any correct copy of the sub-TOCs; and

at least one master-TOC with information structures for storing information for determining the positions of each of the mutually logically conforming sub-TOCs.

23. The medium of Claim 22, wherein the medium is an optically readable disc.

24. The medium of Claim 22 wherein:

information items are stored in the track areas; the information for determining the configuration of each information item in the track area is stored in each sub-TOC; and the

information for determining the position of the at least two mutually logically conforming sub-TOCs is stored in the master-TOC;

the information items include audio information;

the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information and a sub-directory containing audio information having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

25. Apparatus for controlling a reading device, comprising:

first control means for positioning a read head at information items stored in a track area of one or more track areas of a unitary storage medium, depending on configuration information read at times from each of at least two mutually logically conforming sub-TOCs assigned to the track area, each of the sub-TOCs specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration

information for the same information items from at least any correct copy of the at least two sub-TOCs; and

second control means for positioning the read head at times at each of the at least two sub-TOCs depending on position information read from at least one master-TOC.

26. The reading control apparatus of Claim 25 in which:

the storage medium is an optically readable disc;

the information items include audio information;

the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

27. Apparatus for controlling a recording device with a write head, comprising:

first control means for positioning a write head to write information items in a track area of one or more track areas of a unitary storage medium, and writing the information items in the track area; and

second control means for positioning the write head to write configuration information for the information items at times in each of at least two mutually logically conforming sub-TOCs assigned to the track area, and writing in each sub-TOC the configuration information for the same information items written in the track area, thereby allowing retrieving configuration information for the same information item from at least any correct copy of the mutually logically conforming sub-TOCs.

28. The recording device control apparatus of Claim 27 in which:

the controller further comprising third control means for positioning the read head at a master-TOC, and writing information in information structures of the master-TOC for determining the position of each sub-TOC for the write area;

the storage medium is an optically readable disc;

the information items include audio information;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

29. A reading device for a unitary media, comprising:

a read head for reading information from one or more track areas of a track of an optical disc;

a disc driver for driving the track with respect to the read head;

a clamping device for holding the disc in relation to the disc driver;

control means for controlling the reading device

the control means positioning a read head with respect to the track depending on configuration information including position information read at times from each of at least two mutually logically conforming sub-TOCs assigned to each track area, each sub-TOC specifying the configuration of each information item stored in the track area, thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs; and

the control means positioning the read head at each of the at least two sub-TOCs depending on position information read from at least one master-TOC.

30. The reading device of Claim 29 in which:

the storage medium is an optically readable disc;

the information items include audio information;

the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

31. A recording device for a unitary storage medium, comprising:

a master disc;

means for pressing consumer discs from the master disc to record the consumer discs;

and in which the master disc includes:

one or more track areas;

at least two mutually logically conforming sub-TOCs assigned to a track area, each sub-TOC having information structures specifying the configuration of each information item stored in the track area, thereby allowing retrieving the configuration of any information item at least from any correct copy of the sub-TOCs; and

at least one master-TOC with information structures specifying the positions of each of the mutually logically conforming sub-TOCs.

32. The recording device of Claim 31 in which:

the storage medium is an optically readable disc;

the information items include audio information;

the information items are recorded using an optical write head in the process for producing the master disc;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories:

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

33. A recording device with a write head for a unitary storage medium, comprising:

a write head for recording information on one or more track areas of a track of an optical disc;

disc driver for driving the track with respect to the write head;

a clamping device for holding the disc fixed in relation to the disc drive means;

control means for controlling the recording device;

the control means positioning the write head at times to write the information items in a track area and for subsequently writing the information items in the track area;

the control means positioning the write head at times to write, in at least two mutually logically conforming sub-TOCs assigned to each track area, configuration information of the information items, each sub-TOC having structures for storing configuration information for each of the information items stored in the track area, and for subsequently writing the information item configuration information into the sub-TOC structures, thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs.

34. The recording device of Claim 33 in which:

the control means position the write head to write, in at least one master-TOC, information for determining the positions of the sub-TOCs, the master-TOC having structures for storing the information for determining the positions of each sub-TOC, and for writing the sub-TOC position determining information into the master-TOC structures;

the control means position the write head to write at least two mutually logically conforming sub-TOCs for the same track area of the unitary storage medium, each sub-TOC having structures for storing information for determining the configuration of each information items stored in the track area, thereby allowing retrieving the configuration of any information item in the track area from at least any correct copy of the sub-TOCs;

the control means position the write head to write at least one master-TOC having structures for storing information for determining the position of the sub-TOCs;

the write head is a read/write head used for reading information from the medium and writing information to the medium.

the control means position the write head to read the information items stored in the track area depending on configuration information read at items from each of the mutually logically conforming sub-TOCs assigned to the track area, each of the sub-TOCs specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration information for the same information items from at least any correct copy of the at least two sub-TOCs; the control means control the reading of each information item by the write head positioned at the information item in the track area;

the control means position the write head at times to read the information item configuration information at times from each of the sub-TOCs depending on position information read from the master-TOC; the control means control the reading of the configuration information by the write head positioned at each sub-TOC;

the control means position the write head at times to read the position information of the sub-TOCs from the master-TOC and control the reading of the position information from the master-TOC;

the storage medium is an optically readable disc;

the information items include audio information;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more or: a lossless compression format; and a lossy compression format.

35. An optical disc for storing audio-centered information on a unitary storage medium using a Table-of Contents (TOC) mechanism for therein specifying an actual configuration of various audio items on the medium, produced by the method of:

assigning at least two mutually logically conforming Sub-TOCs to each one of a set of one or more Track Areas on the unitary storage medium, thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of the Sub-TOCs; and providing at least one master-TOC for specifically pointing to each of the Sub-TOCs.

36. The medium of Claim 22, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

37. The apparatus of Claim 25, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

38. The apparatus of Claim 27, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

39. The reading device of Claim 29, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

40. The reading device of Claim 31, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

41. The recording device of Claim 33, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

42. The optical disc of Claim 35, wherein information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of information in another of the at least two mutually logically conforming sub-TOCs.